

**ABSTRACT**

Apparatus for transferring data from a host computing system to one or more magnetic tape  
storage devices or the like, the apparatus comprising input apparatus for receiving data and  
converting it into codeword pairs in a format suitable for storage on the tape, a write head for  
writing the codeword pairs in codeword quad (CQ) sets of  $2 \times 8$  codeword pairs to the tape, a  
read head for reading back data written to the tape and transferring the read data to an error  
checking block which is arranged to generate a negative output if a codeword pair includes an  
error and/or more than a predetermined number of errors, and control apparatus for causing the  
write head to rewrite a CQ set to the tape in response to a negative output from the error  
checking block, the control apparatus being configured or configurable to rewrite a CQ set to  
the tape until all of the codeword pairs (or CQ's) in that CQ set are written without error (or less  
than a predetermined number of errors) during the same rewrite, thereby maximising the quality  
of the stored data and minimising the probability that data will not be recoverable from the tape  
when required. In a preferred embodiment, the apparatus includes a control register having a  
number of bits which, if set to 1, cause CQ sets to be rewritten if any of its CQ's are bad,  
irrespective of the number of previous rewrites.

[Figures 12, 14]